

## **XL Navigation**

### **A. Interruption by Flood**

Rock Island District locks on the Mississippi River were closed to navigation traffic due to the high water beginning in April 1993. In preparation for the flood, lock crews began removing or protecting all lock operating equipment and all lock site buildings. Lock crews placed sandbags and bulkhead closures around central control stations, control houses, maintenance buildings, and standby generator buildings. Electric motors, tow haulage units, and other machinery were removed and raised to higher ground. At the same time, plans were formulated for reinstallation of equipment and anticipated repairs that would be necessary to resume operation of the locks for navigation traffic. The 1993 Flood caused lock closure periods as follows: Lock 17 (April 6-11); Locks 16, 17, 18, 20, 21 and 22 (April 18 - May 11); and all Rock Island District Mississippi River Locks (June 25 - August 16). One or more of the District's locks were closed a total of 77 days during the period of April 6 through August 16.

At the height of the flood, 400 miles of the Mississippi River were closed to commercial and recreational traffic. More than 200 tows were stalled on the Upper Mississippi River, costing the industry more than \$750,000 per day. More than 1,000 barges were stranded, not including the barges amassed near St. Louis awaiting resumption of navigation. Some grain was off loaded. Many coal fired utilities that depend on river transportation for coal seriously depleted their reserves. It was more than eight weeks before all the District's locks reopened.

There was a decrease in shipments on the Mississippi River in 1993. Overall tonnage was down 30 to 35 percent. Corps of Engineers components gathering and analyzing 1993 Flood impacts to navigation information include the Lower Mississippi Valley Division, the Institute of Water Resources, and the Corps of Engineers Navigation Data Center--Water Resources Support Center.

### **B. Recovery**

In early July, Rock Island District personnel put plans together to restore the entire navigation system within a month. Every lock had a unique set of conditions. The lockmasters at each lock determined what parts and equipment they would need even before the flood crest. They also determined what parts could be saved, dried and repaired and what equipment would be replaced. The locks were ready for operation before the Coast Guard had determined the river to be safe for traffic. By August 17, the last lock in the Rock Island District was operational. However, much restoration is still underway to return each site to pre-flood conditions. Engineering studies are also underway to determine if certain lock and dam equipment must be redesigned or permanently moved to avoid damage during future floods.